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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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David E. Halasz

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TUCKER, ELLIS & WEST LLP
1150 HUNTINGTON BUILDING
925 EUCLID AVENUE
CLEVELAND, OH 44115-1414

EXAMINER

POLTORAK, PIOTR

ART UNIT

PAPER NUMBER

2134

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/021,450	Applicant(s) HALASZ ET AL.	
	Examiner Peter Poltorak	Art Unit 2134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,8-10,12,14,16,17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 8-10, 12, 14, 16-17, 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/17/06 has been entered.
2. The Amendment, and remarks therein, received on 2/07/06 have been entered and carefully considered.

Response to Amendment

3. Applicant's arguments have been carefully considered but they were not found persuasive.
4. Applicant arguments essentially contest an issue of a newly introduced limitation. Applicant suggests that the table associating a broadcast key and that is local to the access point is not present in the art of record.
5. The examiner points applicant to col. 13 lines 9-17: "When transfer data are generated at the source terminal, a broadcast packet is sent to the wireless base station 7-6 (9-1). Packet encrypting section 12 in the wireless base station 7-6 selects a VLAN-key from a group of encryption keys received from the terminal authentication section 10 (9-2), and encrypts the broadcast packet (9-3), and sends the encrypted broadcast packet to all the packet terminals (9-4)" and to col. 16 lines

28-37: "Packet decoding section 13 in the wireless base station 7-6 decodes the encrypted packet using the VLAN-key without discriminating unicast/broadcast or multicast packets. Subsequent steps are the same as those in Embodiment 3.

Wireless base station 7-6 discards received data packet if it has been tampered, and if the received packet has not been tampered and the identity of VLAN-ID and source address is registered in the terminal information (that is part of the access point, see Fig. 2), it is sent to the destination terminal specified in the destination address 4-1 (12-2).

This clearly suggests that the access points utilizes the same data as disclosed in Table 2 and Table 3 that associates a broadcast key with a VLAN. In addition, the examiner points out that the idea of caching tables on various devices in order to make the process of data retrieval more efficient is old and well-known in the art of computing (e.g. DNS Caching only Servers). Thus, if not inherent, it would have been at least obvious to one of ordinary skill in the art at the time of applicant's invention to store (cache) a table associating a broadcast key with a VLAN (as disclosed in Table 3 used by the authentication server) at the access point given the benefit of more efficient access to data utilized by the access point.

6. Claims 1, 3, 5, 8-10, 12, 14, 16-17, 19-22 have been examined.

Claim Objections

7. Claim 21 is objected to because of the space missing between "Virtual Local Area Networks" and "(VLANs)".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. Claims 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.
9. It is not clear what is the subject of the phrase: "local to the access point", e.g. a table, a broadcast key or a VLAN. In the Remarks applicant suggests that it is a table that is local to the access point. As a result, the limitation is treated according to this interpretation. However, applicant should amend the claim language to clarify the claimed subject matter.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1,3, 8, 10, 12, 17 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ichikawa et al. (U.S. Patent No. 6307837)* in view of *Kerberos* as illustrated by *De Clercq et al. (Jan De Clercq and Micky Balladelli "Windows 2000 Authentication", March 2001, Digital Press)*.

As per claims 21-22 *Ichikawa et al.* teach a wireless LAN (VLAN subnets, Fig. 1 and col. 7 lines 1-5). *Ichikawa et al.* teach "a wireless access point configured to send and receive wireless signals from a wireless station and responsive to an association request from the wireless station to authenticate the wireless station with an authentication server" (*Ichikawa et al.*, col. 7 line 49-col. 8 line 10) and "the access point is responsive to receiving a VLAN identifier for the wireless station to ascertain an appropriate broadcast key corresponding to the received VLAN identifier"(col. 12 lines 44-61) (See the last Office Action for details).

11. *Ichikawa et al.* teach the access point (*the wireless base station*) selecting a broadcast key (VLAN –key) as discussed above but do not explicitly teach a lookup table containing broadcast key values corresponding to VLAN identifiers (VLAN-id). However, *Ichikawa et al.* disclose that access point (*the wireless base station*) checks a VLAN identifier, the source address and selects an appropriate broadcast key from a group of encryption keys in order to decrypt encrypted broadcast data from the wireless station (col. 10 lines 42-46, col. 12 lines 44-54, col. 13 lines 12-15). Thus, it is clear that the access point must have a lookup table like structure similar to lookup table 1 (col. 8) in order to retrieve the information discussed above.

12. *Ichikawa et al.* do not explicitly teach that an authentication server sends a session key to the wireless station.

Kerberos use the authentication server that provides session keys to network clients (Key Distribution Center (KDC), e.g. *The introduction, "Step 1: Kerberos authentication is based on symmetric key cryptography" section and Fig. 9*)

As well known in the art session keys provide means for secure communication where data exchanged between the communicating parties is encrypted. Also, session keys are valid only for the particular session and compromising a session key does not impact the security of the previous and the future data exchange.

Furthermore, *Kerberos* provides scalability and ensure central administration, which is particularly beneficial since the network clients are often installed and kept in an unsecured environment. Given these benefits it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use centralized authentication server to provide session keys to a network client such as wireless workstation taught by *Ichikawa et al.*

The examiner points out that the wireless stations are connected to the network via access points thus any data sent to the wireless station will be received by the appropriate access point that then sends data to the wireless station.

13. *Ichikawa et al.* do not explicitly teach encrypting the broadcast key with the session key. However, the limitation is implicit. The broadcast key is to encrypt broadcast data in order to protect the data confidentiality. Sending the broadcast key unencrypted defeats the purpose of the security since obtaining the "unprotected broadcast key" jeopardize the confidentiality of the encrypted broadcast data.

14. *Ichikawa et al.* do not explicitly teach that the table associating a broadcast key with a VLAN is stored locally to the access point. However, *Ichikawa et al.* clearly disclose that the access points utilizes the same data as disclosed in Table 2 and Table 3 associating a broadcast key with a VLAN (*col. 13 lines 9-17 and col. 16 lines*

28-37). In addition, the examiner points out that the idea of caching tables on various devices in order to make the process of data retrieval more efficient is old and well-known in the art of computing (e.g. DNS Caching only Servers). Thus, if not inherent, it would have been at least obvious to one of ordinary skill in the art at the time of applicant's invention to store (cache) a table associating a broadcast key with a VLAN (*as disclosed in Table 3 utilized by authentication server*) at the access point given the benefit of more efficient access to data utilized by the access point.

15. As per claims 8 and 17 *Ichikawa et al.* teach the network using an IP address scheme (*col. 21 lines 37-52 and col. 24 lines 33-36*).

16. Claims 1,3, 8, 10, 12, 17 and 19-20 are substantially equivalent to claims 21-22; therefore claim 1,3, 8, 10, 12, 17 and 19-20 are similarly rejected.

17. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ichikawa et al.* (U.S. Patent No. 6307837) in view of in view of Kerberos as illustrated by *De Clercq et al.* (*Jan De Clercq and Micky Balladelli "Windows 2000 Authentication", March 2001, Digital Press*) in further in view of *Johnson et al.* (U.S. Pub. No. 20010014088).

Ichikawa et al. in view of Kerberos teach a wireless station as discussed above.

18. *Ichikawa et al.* in view of Kerberos do not explicitly teach that the wireless station operates in accordance with the IEEE 802.11 standard.

Johnson et al. teach wireless stations operating in accordance with the IEEE 802.11 standard (*Johnson et al., col. 1 lines [4]*).

Art Unit: 2134

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to operate *Ichikawa et al.* in view of *Kerberos*' wireless stations in accordance with the IEEE 802.11 as taught by *Johnson et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to minimize data packet collisions.

19. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ichikawa et al.* (U.S. Patent No. 6307837) in view of in view of *Kerberos* as illustrated by *De Clercq et al.* (*Jan De Clercq and Micky Balladelli "Windows 2000 Authentication", March 2001, Digital Press*) in further in view of *Ke et al.* (U.S. Pub. No. 20030041266).

Ichikawa et al. in view of *Kerberos* teach a mobile IP VLANs as discussed above.

20. *Ichikawa et al.* in view of *Kerberos* do not explicitly teach a step of tagging data to which VLAN the data belongs.

Ke et al. teach tagging (*Ke et al.* [34]).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to tag data to which VLAN the data belongs as taught by *Ke et al.* One of ordinary skill in the art would have been motivated to perform such a modification in order to allow traffic to be mapped into a particular VLAN (*Ke et al.* [34]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is

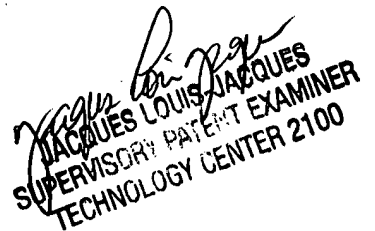
Art Unit: 2134

(571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis Jacques can be reached on (571)272-6962. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

6/23/06



JACQUES LOUIS JACQUES
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100